Diese Website verwendet Cookies von Google, um Dienste anzubieten und den Traffic zu analysieren. Deine IP-Adresse und dein User-Agent werden zusammen mit Messwerten zur Leistung und Sicherheit für Google freigegeben. So können Nutzungsstatistiken generiert, Missbrauchsfälle erkannt und behoben und die Qualität des Dienstes gewährleistet werden.

WEITERE INFORMATIONEN OK

Wednesday, March 12, 2008

Logic and Legal Drafting 101

In common English, "or" and "and" are often ambiguous. "Or" can mean either inclusive or exclusive or, among other things. "And" often means set union, which might correspond to either inclusive or exclusive "or" *or* logical "and." For example, "choose from a box containing X and Y" might mean "choose X or Y" (inclusive), "choose X or Y" (exclusive), or "choose X and Y" -- depending on whether you get to choose once, once or twice, or you must make two choices. There are any number of other ambiguities that arise when trying to deduce the logic, if any, behind many plain English uses of "and" and "or."

Nevertheless, it's not hard for a legal drafter to make the logic of a legal document clear. This should be Legal Drafting 101, a class which should be required in all law schools: use "X or Y, but not both" for exclusive or, "X or Y, or both" for inclusive or, "both X and Y" for logical and. It would probably save billions of dollars and many erroneous decisions per year if lawyers followed these three simple drafting tips. For that matter, technical writers and any other writers trying to make logical relationships clear might benefit from this advice.

Link here for a hilarious thread of some of America's smartest lawyers trying to decipher a Supreme Court opinion and decide whether it breaks one of De Morgan's Laws -- not (A or B) = not A and not B (where the "or" is inclusive). It may depend on what the meaning of "or" is.

Posted by Nick Szabo at 5:09 PM

3 comments:

Daniel A. Nagy said...

Sometimes, I wish legal English had parentheses... Yet, I agree that these problems you mention can and should be avoided by careful drafting.

In fact, I think that limiting the complexity of logical expressions in legal documents is an important feature (of legal English) that is

Pages

- Home

About Me

Nick Szabo

"A premier thinker about history, law and economics, and the lessons they have for security." -- Adam Shostack, Emergent Chaos

"Szabo comes out with these essays that leave me in awe." -- Brian Dunbar

"Reading material that is eclectic, challenging and endlessly fascinating." -- Sean McGrath, Propylon

"Like most blogs worth my attention, this blog is updated only infrequently. That is because the authors of blogs worth my attention only post when they have something to say that is true, relevant and not already known by their audience. Most of the human race does not have the skill to know when an idea has these three properties. The skill is particularly rare in the fields of politics and economics, which is why this blog is such a rare and valuable thing." -- Richard Hollerith

View my complete profile

missing from *E*, making the latter ill-suited for the purpose of expressing contracts to which humans are expected to agree after inspection: with loops and complicated logic, it is possible to construct a smart contract that is essentially a cryptographic hash function in the sense that given the desired outcome, it is not easy to figure out what the corresponding conditions are.

6:56 AM

Daniel A. Nagy said...

By the way, Nick, are you still actively researching smart contracts and computerized law in general? Are you supervising graduate students?

I am asking, because my business might need people who know this stuff in the (not too distant) future.

7:01 AM

nick said...

with loops and complicated logic, it is possible to construct a smart contract that is essentially a cryptographic hash function in the sense that given the desired outcome, it is not easy to figure out what the corresponding conditions are.

One can easily construct an English contract that nobody except some lawyers can understand, either. And they might bill you a very large number of very expensive hours to interpret it for you. At least all the logic and conditions of a smart contract can be simulated when the contract deals with simulable subject matter, such as finance. (Not that financial simulations are anywhere close to perfect, as Wall Street has again recently demonstrated).

My contract language, being event- and outcome-oriented instead of oriented towards machine instructions, is a simplification over trying to specify smart contracts in a machine-oriented language like Lisp or C. I expect further advances to occur from using user interfaces (forms, sliders, radio buttons, graphics representing the subject matter, and so on) to represent contractual conditions. Those user interfaces will be compiled into a target language, probably an event-oriented language similar to the one I have designed.

I'll contact you privately about your second question. I still think quite a bit about smart contracts, and occasionally still come up with ideas along those lines, which is something like active research. I've come up with a more advanced design for the contract language, for example.

1:46 PM

Post a Comment

Newer Post Home Older Post

Subscribe to: Post Comments (Atom)

Blog Archive

- ► 2018 (1)
- ► 2017 (3)
- ► 2016 (4)
- ► 2015 (3)
- ► 2014 (3)
- ► 2013 (3)
- ► 2012 (8)
- ► 2011 (12)
- ► 2010 (9)
- ► 2009 (29)
- ▼ 2008 (55)
  - ► December (2)
  - ► October (2)
  - ► September (4)
  - ► August (9)
  - ► July (4)
  - ► June (6)
  - ► May (6)
  - ► April (4)
  - ▼ March (10)
    - Laches
    - How our frog was boiled
    - The monetary value of liquid commodities
    - Representation distance
    - Unpredictable elections
    - Comments on the United States Constitution (iii)
    - Logic and Legal Drafting 101
    - Comments on the United States Constitution (ii)
    - Logical emergence of money from barter
    - Comments on the United States Constitution (i)
  - ► February (5)
  - ► January (3)

► 2007 (47)
► 2006 (130)
► 2005 (44)

Simple theme. Powered by Blogger.